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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,178	08/14/2001	Donald P. Matthews JR.	BRCMP008/BP-1567	8980

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CHRISTIE, PARKER & HALE, LLP
PO BOX 7068
PASADENA, CA 91109-7068

EXAMINER

POPHAM, JEFFREY D

ART UNIT PAPER NUMBER

2137

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/929,178	MATTHEWS, DONALD P.	
	Examiner	Art Unit	
	Jeffrey D. Popham	2137	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 26-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 26-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Remarks

Claims 1-10 and 26-45 are pending.

Response to Arguments

1. Applicant's arguments filed 12/5/2005 have been fully considered but they are not persuasive.

Applicant argues that Caputo teaches a system in which data is both authenticated and encrypted (or decrypted) in a single pass and SSL3spec discloses non-pre-padded network security protocol data, but that this combination isn't found in the prior art. Caputo does not teach pre-padding of data before sending it to the crypto chip, but he does teach that all authentication and cryptography operations will be performed on the chip (Column 5, lines 7-27). Since he also discloses use of DES (which uses padding), the crypto chip of Caputo must perform the padding for DES. Caputo teaches sending data to be authenticated and encrypted to the crypto chip; then the chip will perform authentication operations (MAC) on the data and, subsequently, encrypt the data, all in one pass through the chip. SSL3spec teaches how to authenticate and encrypt using SSL, including padding for encryption using block cipher algorithms (Page 9, Section 4.7). This means that within the combination of Caputo as modified by SSL3spec, the data will be sent to the chip, hashed to form a MAC, padded as needed for the particular algorithm, then encrypted and transmitted.

Applicant argues that Kaplan makes no mention of aligning data after it has been authenticated. Caputo discloses hashing the data, then encrypting the data along with

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the hashed data (Column 11, line 60 to Column 12, line 13). The data/hash combo is then sent for encryption processing. Kaplan discloses padding of data that is to undergo encryption, which in this combination, is the data/hash combo.

A new ground of rejection has been made for claim 32; namely Caputo in view of SSL3spec, further in view of Ganapathy (U.S. Patent 6,557,096). This new ground of rejection was necessitated by amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 8-10, 26, 31, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caputo (U.S. Patent 5,778,071) in view of SSL3spec (Freier et al., "The SSL Protocol Version 3.0", 11/18/1996, pp. 1-12, obtained from <http://wp.netscape.com/eng/ssl3/draft302.txt>).

Regarding Claim 1,

Caputo discloses a method of processing network security protocol data packets, comprising:

Providing a cryptography processing architecture on a chip
(Column 17, line 57 to Column 18, line 9);

Passing network security protocol data for both authentication and cryptography operations from a source to the chip (Column 15, lines 25-30);

Conducting, in hardware, authentication and encryption operations on the network security protocol data (Column 17, line 57 to Column 18, line 9); and

Passing the crypto-processed network security protocol data from the chip to the source (Column 15, lines 25-30);

Wherein the network security protocol data is passed between the chip and the source in a single pass (Column 17, line 57 to Column 18, line 9).

Caputo does not disclose that the network security protocol data is non-pre-padded.

SSL3spec, however, discloses that the data is non-pre-padded network security protocol data (Pages 3-4, Section 1; and Page 10, Section 5.0). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network security protocol of SSL3spec into the crypto device of Caputo in order to gain cryptographic security between two parties and interoperability between differently coded programs (Page 4, Sections 2.1, 2.2, and 2.3).

Regarding Claim 2,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, SSL3spec discloses that the network security protocol is SSL (v3) (Pages 3-4, Section 1; and Page 10, Section 5.0).

Regarding Claim 8,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses that conducting, in hardware, authentication and encryption operations on the network security protocol data comprises feeding back a MAC value calculated during authentication operations for processing in the encryption operations (Column 11, line 60 to Column 12, line 13; and Column 18, lines 1-9).

Regarding Claim 9,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses that the encryption operations further include decryption operations (Column 17, lines 57-67).

Regarding Claim 10,

Caputo as modified by SSL3spec discloses the method of claim 9, in addition, Caputo discloses that conducting, in hardware, authentication and decryption operations on the network security protocol data comprises feeding back decrypted data for processing in the authentication operations (Column 11, line 60 to Column 12, line 13; and Column 17, lines 57-67).

Regarding Claim 26,

Caputo discloses a method of processing network security protocol data packets, comprising:

Receiving, at a chip, security protocol data for both authentication and cryptography operations from a source (Column 15, lines 25-30);

Aligning, at the chip, the received network security protocol data to provide aligned network security protocol data (Column 9, lines 46-61);

Conducting, at the chip, authentication operations and at least one of encryption operations and decryption operations on the aligned network security protocol data to provide processed network security protocol data (Column 17, line 57 to Column 18, line 9); and

Passing the processed network security protocol data from the chip to the source (Column 15, lines 25-30);

Wherein the network security protocol data is passed between the chip and the source in a single pass (Column 17, line 57 to Column 18, line 9).

Caputo does not disclose that the network security protocol data is non-pre-padded.

SSL3spec, however, discloses that the data is non-pre-padded network security protocol data (Pages 3-4, Section 1; and Page 10, Section 5.0). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network security protocol of SSL3spec into the crypto device of Caputo in order to gain

cryptographic security between two parties, interoperability between differently coded programs, and extensibility to other protocols and methods (Page 4, Sections 2.1, 2.2, and 2.3).

Regarding Claim 31,

Caputo as modified by SSL3spec discloses the method of claim 26, in addition, Caputo discloses that the authentication operations comprise authenticating at least a portion of the aligned network security protocol data (Column 11, line 60 to Column 12, line 13).

Regarding Claim 42,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses that the non-pre-padded network security protocol data is passed across a non-dedicated data bus in a single pass (Column 6, lines 41-61). The non-dedicated data bus is the computer's PCMCIA bus, which isn't dedicated to the encryption/authenticating device.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caputo in view of SSL3spec, further in view of TLSspec (Dierks et al., "The TLS Protocol Version 1.0", 10/28/1997, pp. 1-12, obtained from <http://www.umk.pl/~mgw/internet-drafts/draft-ietf-tls-protocol-04.txt>).

Caputo as modified by SSL3spec does not disclose the TLS protocol.

TLSspec, however, discloses that the network security protocol is TLS (Pages 3-4, Section 1). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the network security protocol of TLSspec into the crypto device of Caputo as modified by SSL3spec in order to gain extensibility to other protocols and methods (Pages 4-5, Sections 2.1, 2.2, and 2.3).

4. Claims 4-7, 29, 30, 33, 35-41, and 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caputo in view of SSL3spec, further in view of Kaplan (U.S. Patent 6,704,871).

Regarding Claim 4,

Caputo as modified by SSL3spec does not disclose simultaneously with conducting the cryptography operations on the network security protocol data, pre-loading network security protocol data from a second non-pre-padded network security protocol packet onto the chip.

Kaplan, however, discloses simultaneously with conducting the cryptography operations on the network security protocol data, pre-loading network security protocol data from a second non-pre-padded network security protocol packet onto the chip (Column 37, lines 47-58). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast

processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 5,

Caputo as modified by SSL3spec and Kaplan discloses the method of claim 4, in addition, Kaplan discloses simultaneously with conducting the encryption operations on the network security protocol data, conducting in hardware, authentication operations on the network security protocol data from the second network security protocol packet (Column 37, lines 47-58).

Regarding Claim 6,

Caputo as modified by SSL3spec does not disclose that conducting, in hardware, authentication and encryption operations on the non-pre-padded network security protocol data comprises conducting padding and alignment operations on the chip.

Kaplan, however, discloses that conducting, in hardware, authentication and encryption operations on the non-pre-padded network security protocol data comprises conducting padding and alignment operations on the chip (Column 41, lines 16-51). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through

paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 7,

Caputo as modified by SSL3spec and Kaplan discloses the method of claim 6, in addition, Kaplan discloses that a calculation of a pad length for padding operations is conducted by a pad engine component of the chip architecture (Column 41, line 16 to Column 42, line 3).

Regarding Claim 29,

Caputo as modified by SSL3spec discloses the method of claim 26, in addition, Caputo discloses storing the aligned network security protocol data in a FIFO to accumulate a predefined amount of data before commencing the authentication operations and the at least one of encryption operations and decryption operations (Column 9, lines 46-61).

Kaplan also discloses storing the aligned network security protocol data in two FIFOs (one for cryptographic operations and one for authentication operations) to accumulate a predefined amount of data before commencing the authentication operations and the at least one of encryption operations and decryption operations (Column 38, lines 50-57).

Regarding Claim 30,

Caputo as modified by SSL3spec and Kaplan discloses the method of claim 29, in addition, Kaplan discloses that the predefined amount of data comprises 512 bits (Column 38, lines 50-57).

Regarding Claim 33,

Caputo as modified by SSL3spec does not disclose aligning, for encryption operations, at least a portion of the received non-pre-padded network security protocol data and the authenticated at least a portion of the aligned network security protocol data to provide the aligned network security protocol data for the encryption operations.

Kaplan, however, discloses aligning, for encryption operations, at least a portion of the received non-pre-padded network security protocol data and the authenticated at least a portion of the aligned network security protocol data to provide the aligned network security protocol data for the encryption operations (Column 39, lines 26-42). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 35,

Caputo as modified by SSL3spec and Kaplan discloses the method of claim 33, in addition, Kaplan discloses that aligning, for encryption operations, comprises padding (Column 39, lines 26-37).

Regarding Claim 36,

Caputo as modified by SSL3spec does not disclose storing the aligned network security protocol data for the encryption operations in a FIFO to accumulate a predefined amount of data before commencing the encryption operations.

Kaplan, however, discloses storing the aligned network security protocol data for the encryption operations in a FIFO to accumulate a predefined amount of data before commencing the encryption operations (Column 40, lines 43-52). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 37,

Caputo as modified by SSL3spec does not disclose aligning, within a decryption path, the received non-pre-padded network security protocol data to provide the aligned network security protocol data for the decryption operations.

Kaplan, however, discloses aligning, within a decryption path, the received non-pre-padded network security protocol data to provide the aligned network security protocol data for the decryption operations (Column 39, lines 26-42). It would have been obvious to one of ordinary

skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 38,

Caputo as modified by SSL3spec and Kaplan discloses the method of claim 37, in addition, Caputo discloses decrypting the aligned network security protocol data for the decryption operations and providing at least a portion of the decrypted data for the authentication operations (Column 17, lines 57-67).

Regarding Claim 39,

Caputo as modified by SSL3spec and Kaplan discloses the method of claim 38, in addition, Kaplan discloses aligning the at least a portion of the decrypted data for the authentication operations (Column 41, lines 16-51).

Regarding Claim 40,

Caputo as modified by SSL3spec does not disclose performing at least a portion of the authentication operations and at least a portion of the encryption operations and decryption operations in parallel.

Kaplan, however, discloses performing at least a portion of the authentication operations and at least a portion of the encryption

operations and decryption operations in parallel (Column 37, lines 47-58). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 41,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses performing all authentication and crypto operations on the chip, to enable the non-pre-padded network security protocol data to be passed in a single pass (Column 5, lines 7-27); and SSL3spec discloses that the crypto operations include aligning and padding (Page 9, Section 4.7).

Caputo also discloses aligning and padding the non-pre-padded network security protocol data on the chip to enable to non-pre-padded network security protocol data to be passed in a single pass (Column 39, lines 25-42). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 43,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses performing all authentication and crypto operations on the chip, cryptographically processing the packet portions and outputting the cryptographically processed packet portions from the chip in a single pass over a data bus (Column 5, lines 7-27; and Column 17, line 57 to Column 18, line 9); and SSL3spec discloses that the crypto operations include aligning and padding before (Page 9, Section 4.7).

Caputo also discloses receiving all the packet portions by the chip, padding and aligning the packet portions, cryptographically processing the packet portions, and outputting the cryptographically processed packet portions from the chip in a single pass (Column 38, lines 58-62; Column 39, lines 25-42; and Figure 9). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 44,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses that authentication data is generated is passed for encryption (Column 11, line 60 to Column 12, line 13; and Column 17, line 57 to Column 18, line 9). Caputo as modified by

SSL3spec does not disclose separate data authentication and encryption components.

Kaplan, however, discloses that the authentication operations are performed by an authentication component (Column 42, lines 12-29; and Figure 9);

The encryption operations are performed by an encryption component (Column 40, line 42 to Column 41, line 15; and Figure 9); and

Authentication data generated by the authentication component is passed to the encryption component and aligned by the encryption component (Column 38, lines 58-62; and Column 39, lines 25-42).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

Regarding Claim 45,

Caputo as modified by SSL3spec discloses the method of claim 1, in addition, Caputo discloses that decrypted data is generated and is passed for authentication (Column 11, line 60 to Column 12, line 13; and Column 17, line 57 to Column 18, line 9). Caputo as modified by SSL3spec does not disclose separate encryption and data authentication components.

Kaplan, however, discloses that the authentication operations are performed by an authentication component (Column 42, lines 12-29; and Figure 9);

The encryption operations are performed by an encryption component (Column 40, line 42 to Column 41, line 15; and Figure 9); and

Decrypted data generated by the encryption component is passed to the authentication component and aligned by the authentication component (Column 38, lines 58-62; and Column 39, lines 25-42).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the crypto chip of Kaplan into the crypto device of Caputo as modified by SSL3spec in order to obtain fast processing through paralleled and pipelined operations and to facilitate peak encrypt/decrypt performance (Column 41, lines 17-19).

5. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caputo in view of SSL3spec, further in view of Gaytan (U.S. Patent 5,638,367).

Regarding Claim 27,

Caputo as modified by SSL3spec does not disclose removing non-valid data from the received data.

Gaytan, however, discloses removing non-valid data from the received data (Column 1, line 62 to Column 2, line 29). It would have been obvious to one of ordinary skill in the art at the time of applicant's

invention to incorporate the data packing system of Gaytan into the crypto device of Caputo as modified by SSL3spec in order to gain better throughput and performance by only sending valid data past the buffer.

Regarding Claim 28,

Caputo as modified by SSL3spec does not disclose packing the data.

Gaytan, however, discloses packing the data (Column 1, line 62 to Column 2, line 29). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the data packing system of Gaytan into the crypto device of Caputo as modified by SSL3spec in order to gain better throughput and performance by only sending valid data past the buffer.

6. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caputo in view of SSL3spec, further in view of Ganapathy (U.S. Patent 6,557,096).

Caputo as modified by SSL3spec discloses the method of claim 31, in addition, SSL3spec discloses that the at least a portion of the aligned network security protocol data comprises Content Type, Length, and Data (Page 10, Section 5.0). Caputo as modified by SSL3spec does not disclose that the data is aligned into rows of data where each row of data contains a single type of data.

Ganapathy, however, discloses that the data is aligned into rows of data where each row of data contains a single type of data (Column 17, lines 38-55;

Column 19, line 35 to Column 20, line 25; and Figure 12). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the data aligner of Ganapathy into the crypto device of Caputo as modified by SSL3spec in order to properly align and format the data before sending it for mathematical (in this case, authentication and encryption/decryption) operations, so that the data has any needed sign and guard bits pre-pended thereto.

7. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Caputo in view of SSL3spec and Kaplan, further in view of Gaytan.

Caputo as modified by SSL3spec and Kaplan does not disclose that aligning comprises removing non-valid data.

Gaytan, however, discloses that aligning comprises removing non-valid data (Column 1, line 62 to Column 2, line 29). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the data packing system of Gaytan into the crypto device of Caputo as modified by SSL3spec in order to gain better throughput and performance by only sending valid data past the buffer.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Popham whose telephone number is (571)-272-7215. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571)272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeffrey D Popham
Examiner
Art Unit 2137


EMMANUEL L. MOISE
SUPERVISORY PATENT EXAMINER